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| 10/652,868 | 08/29/2003 | Yousef M. Jarrah | 8540G-000214 | 1008 |
| 27572 | 7590 | 05/20/2008 | | |
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| BLOOMFIELD HILLS, MI 48303 | | | | |
| EXAMINER | | | | |
| WIEHE, NATHANIEL EDWARD | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 3745 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 05/20/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/652,868

Applicant(s)

JARRAH, YOUSEF M.

Examiner

NATHANIEL WIEHE

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 11-13 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3 and 11-13 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 March 2008 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-3 and 11-13 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 10 March 2008 have been fully considered but they are not persuasive. Applicant asserts that the instant invention includes three critical and essential elements. The examiner disagrees. The specification does not clearly indicate that these three elements are required. Firstly, the summary of the invention does not refer to the inducer have a height of 5 to 7% of the outer diameter of the impeller. Further, the specification only notes that the inducer should be within the claimed range, not that such a range is critical to operation of the invention (See paragraph [0044]. Additionally, claims 11-13 do not require the supposedly critical limitation of a vaneless diffuser.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adonakis (6,499,954) in view of Atkinson (2,819,012). Adonakis discloses a compressor having a vaneless diffuser in fluid communication with a volute (28) and an impeller (10) directing a fluid stream to the volute having a hub (16) and a plurality of blades (FB) extending spirally and having no axial variation, i.e. the blade is defined by a single radius (Adonakis column 4, lines 15-17). The leading edges (LE) of the blades (FB) are located proximate to the hub while the trailing edges (TE) are proximate to the volute (28). Applicant claims that a blade surface is defined by a polar angle as a function of the radius that appear to form a generally spiral shaped blade surface and since applicant has not further specified or defined the surface, the spirally oriented blades of Adonakis met the claim limitation. Adonakis does not disclose the use of an inducer. Atkinson discloses a centrifugal impeller (10) including a plurality of blades (24) and an inducer (23) formed integrally with the blades and extending along the entire leading edge. The inducer extends in a predominately axial direction. Further, Atkinson notes that the length of the inducer may be limited in compliance with rotor or tool requirements (Atkinson column 4, lines 15-20). The inducer of Atkinson accelerates the incoming flow in the circumferentially direction providing a smooth and

uniform flow into the impeller blades thereby improving the efficiency of the impeller (Atkinson column 2, line 70- column 3, line 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the impeller of Adonakis by including an inducer as taught by Atkinson for the purpose of accelerating the incoming flow in the circumferential direction thereby improving efficiency of the impeller. The modified invention of Adonakis does not disclose the use of an inducer with a height between five to seven percent of the impeller outer diameter. Since applicant has not disclosed that having an inducer height that is substantially five to seven percent of the outer diameter of the impeller solves any stated problem or is for any particular purpose above the fact that the inducer improves flow efficiency and it appears that the inducer Atkinson of would perform equally well with an inducer having an axial height that is five to seven percent of the diameter of the induce as claimed by applicant, it would have been an obvious matter of design choice to further modify the invention of Adonakis by utilizing the dimension as claimed for the purpose of improving the flow efficiency.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHANIEL WIEHE whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NATHAN WIEHE/
Nathan Wiehe
Examiner
Art Unit 3745

/Edward K. Look/
Supervisory Patent Examiner, Art Unit 3745